I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to:

Assistant Commissioner for Patents, Washington, D.C. 20231, On September 19, 2002

Quine Intellectual Property Law Group, P.C.

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Attorney Docket No. 01-054310US Client Ref. No. 100/11710US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Steven A. Sundberg, et al.

Application No.: 10/003472

Filed: November 15, 2001

For: BINDING ASSAYS USING MOLECULAR MELT CURVES

Examiner: Unassigned

Art Unit: 1743

INFORMATION DISCLOSURE

STATEMENT UNDER 37 CFR § 1.97 and

§ 1.98

Assistant Commissioner for Patents Washington, D.C. 20231

Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.



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As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that <u>no fee is required</u> for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0893. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

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Paul Littlepage Reg. No. 48,581

QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.

P.O. Box 458

Alameda, CA 94501 Tel: (510) 337-7871 Fax: (510) 337-7877

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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7	Co	omplete if Known
١	Application Number	10/003472
1	Filing Date	November 15, 2001
	First Named Inventor	Steven A. Sundberg
	Group Art Unit	1743
	Examiner Name	Unassigned &
	Attorney Docket Number	01-054310US
	Date Submitted	September 19, 2002
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		NT BY APPLICANT		First Named Inventor	Steven A. Sundb	erg of
				Group Art Unit	1743	
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				Date Submitted	September 19, 2	002
			U.	S. PATENT DOCUMENTS		
Examiner Initials	Cite No.	U.S. Patent Docur Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
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	АН	wo	00/43766	1./	Caliper Tech. Corp.	07-27-2000		
•	AI	wo	00/45170	i ^	Signature Bioscience, Inc.	02-01-2000	SECENS DOS	
	AJ	wo	00/60108	V	Caliper Tech. Corp.	10-12-2000	160 00 00	>
	AK	wo	00/70080	V	Caliper Tech. Corp.	11-23-2000	OCT 170	
	AL	wo	94/05414		Regents of the Univ. of California	03-17-1994	40	
	AM	wo	96/04547	V	Lockheed Martin Energy Systems,Inc.	02-15-1996		
	AN	wo	97/02357	اسا	Affymetrix, Inc.	01-23-1997		
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	AS	wo	00/45172		Caliper Tech. Corp.	08-03-2000		
	AT	wo	02/22878		Caliper Tech. Corp.	03-21-2002		

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Examiner	Date	
Signature	Considered	╛

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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01-054310US	
September 19, 2002	
	10/003472 November 15, 2001 Steven A. Sundberg 1743 Unassigned 01-054310US

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Т				
	AU	Barcelo, F. et al. (1990) "A scanning calorimetric study of natural DNA and antitumoral anthracycline antibiotic-DNA complexes." Chem Biol Interact, 74(3):315-324.					
	AV	Brandts, J. et al. (1990) "Study of strong to ultratight protein interactions using differential scanning calorimetry" Biochem 29:6927-2940.	SEP 30				
	AW	Brandts, J. et al., (1990) American Laboratory, 22:3041+.	2002				
	AX	Chavan, A. et al., (1994) "Interaction of nucleotides with acidic fibroblast growth factor (FGF 1) Biochem, 33(23):7193-7202	2				
	AY	Checovich et al. (1995), "Fluorescence polarization- a new tool for cell and molecular biology" (product review, Nature 375:354-256.					
	AZ	Clegg, R. et al. (1994) "Observing the helical geometry of double-stranded DNA in solution by fluorescence resonance energy transfer." Proc Natl Acad Sci USA 90(7):2994-2998.					
	ВА	Dandliker and de Saussure (1970) (Review Article) "Fluorescence polarization in immunochemistry" Immunochemistry 7:799.					
	ВВ	Dandliker and Feigen (1961), "Quantification of the antigen-antibody reaction by the polarization of fluorescence" <u>Biochem Biophys Res Commun</u> 5:299.					
	ВС	Dandliker W. B., et al. (1973), "Fluorescence polarization immunoassay. Theory and experimental method" <u>Immunochemistry</u> 10:219.					
	BD	Devlin et al. (1993), "Homogeneous detection of nucleic acids by transient-state polarized fluorescence" Clin Chem 39:1939.					
	BE	Gonzalez, M. et al., (1997) "Interaction of Biotin with Streptavidin", <u>J Biol Chem</u> , 272(17):11288-11294					
	BF	Haugland (1996) <u>Handbook of Fluorescent Probes and Research Chemicals</u> Published by Molecular Probes, Inc., Eugene, OR; Chapter 13.					
	BG	Hefti, J. et al. "Sensitive detection method of dielectric dispersions in aqueous-based, surface-bound macromolecular structures using microwave spectroscopy" <u>Applied Phys Letters</u> , 75(12):1802-1804.					
	ВН	Jiskoot et all. (1991), "Preparation and application of a fluorescein-labeled peptide for determining the affinity constant of a monoclonal antibody-hapten complex by fluorescence polarization" Anal Biochem 196:421					
	ВІ	Johnson, W. (1990) "Protein Secondary Structure and Circular Dichroism: A Practical Guide" Proteins 7:205-214.					

Examiner	Date	
Signature	Considered	

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	C	omplete if Known	7
	Application Number	10/003472	100
	Filing Date	November 15, 2001	100
	First Named Inventor	Steven A. Sundberg	() 2
	Group Art Unit	1743	F 92
	Examiner Name	Unassigned	1.7
	Attorney Docket Number	01-054310US	
	Date Submitted	September 19, 2002	9
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BJ	Kleanthous, C. et al., (1991) "Stabilization of the shikimate pathway enzyme dehydroquinase by covalently bound ligand" J Biol Chem, 266(17):10893-10898	
BK	Kopp, M. et al. (1998) "Chemical amplification: continuous-flow PCR on a chip" Science 280(5366):1046-1048.	S
BL	Kumke et al. (1995), "Hybridization of fluorescein-labeled DNA oligomers detected by fluorescence anisotropy with protein binding enhancement" Anal Chem 67(21):3945-3951.	EP 3
ВМ	Lee, M. et al., (1993) "In vitro cytotoxicity of GC sequence directed alkylating agents related distamycin" J Med Chem 36(7):863-870.	20UZ
BN	Levison S. A., et al. (1976), "Fluorescence polarization measurement of the hormone-binding site interaction" Endocrinology 99:1129.) (
во	Morton, A. et al., (1995) "Energetic origins of specificity of ligand binding in an interior nonpolar cavity of T4 lysozyme." Biochem, 34(27):8564-8575	
BP	Murakami et al. (1991). "Fluorescent-labeled oligonucleotide probes detection of hybrid formation in solution by fluorescence polarization spectroscopy" Nuc Acids Res 19:4097.	
BQ	Nikiforov and Jeong "Detection of Hybrid Formation between Peptide Nucleic Acids and DNA by Fluorescence Polarization in the Presence of Polylysine" (1999) <u>Analytical Biochemistry</u> 275:248-253.	
BR	Ory, J. et al. (1999) "Studies of the Ligand Binding Reaction of Adipocyte Lipid Binding Protein Using the Fluorescent Probe 1,8-Anilinonaphthalene-8-Sulfonate" Biophys 77:1107-1116.	
BS	Pilch, D. et al., (1994) "Ligand-induced formation of nucleic acid triple helices." Proc Natl Acad Sci USA, 91(20):9332-9336.	
 BT	Ropson, I. et al. (1997) "Fluorescence spectral changes during the folding of intestinal fatty acid binding protein" Biochem, 36(38):8594-8601.	
BU	Schellman, J. (1975) <u>Biopolymers</u> , 14:999-1018.	
BV	Schellman, J. (1976) <u>Biopolymers</u> , 15:999-1000.	
BW	Schonbrunn, E. et al. (2000) "Structural basis for the interaction of the fluorescence probe 8-anilino-1-naphthalene sulfonate (ANS) with the antibiotic target MurA" Proc Natl Acad Sci USA 97(12):6345-6349.	!
ВХ	Selvin, P. (2000) "The renaissance of fluorescence resonance energy transfer" Nat Struct Biol 7(9):730-734.	
BY	Tyagi, S. et al. (1996) "Molecular beacons: probes that fluoresce upon hybridization" Nat Biotech 14:303-308.	
BZ	Tyagi, S. et al. (1998) "Multicolor molecular beacons for allele discrimination" Nat Biotech 16:49-53.	

Examiner	Date	
Signature	Considered	

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Application Number	10/003472
Filing Date	November 15, 2001
First Named Inventor	Steven A. Sundberg
Group Art Unit	1743
Examiner Name	Unassigned 2
Attorney Docket Number	01-054310US
Date Submitted	September 19, 2002
	<u> </u>

CA	Walker, J. et al. (1996), "Strand displacement amplification (SDA) and transient-state fluorescence polarization detection of <i>mycobacterium tuberculosis</i> DNA" Clinical Chemistry 42(1):9-13.	CENTER
СВ	Weber, P. et al., (1994) "Structure-based design of Synthetic Azobenzene Ligands for Streptavidin" J Am Chem Soc 16:2717-2724.	(300)
СС	Wei and Herron (1993), "Use of synthetic peptides as tracer antigens in fluorescence polarization immunoassays of high molecular weight analytes" Anal Chem 65:3372.	
CD	Woody, R. (1985) "Circular Dichroism of Peptides" in <u>The Peptides</u> 7:14-114, Academic Press.	



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